

REMARKS

Claim 6 has been amended, claim 13 has been cancelled and new claim 39 has been added. Claims 6-12, 14-19 and 39 are pending and under consideration. Claims 7, 8, 9, 10 and 17 are rejected under 35 USC §103(a) as being obvious over Sommer et al. in view of US Patent No. 5,507,623 to Kojima.

Claims 6, 11-16, 18 and 19 are rejected under 35 USC §102(b) as being anticipated by US Patent No. 6,280,857 to Sommer et al. The Examiner argues that the claimed composition does not have a priority date of April 22, 1999. The Examiner's reference to the April 1999 date appears to be an error. PCT Application No. PCT/DE99/01217 was filed on April 22, 1999. However, this application claims priority to German Application No. 19819026, which was filed on April 29, 1998. In addition, it should be noted that all features disclosed in the present application find support in at least one of the priority applications.

Regardless of the priority issue, it is submitted that the amended claims patentably distinguish over Sommer et al. With regard to independent claims 6 and 39, the following table summarizes the difference between Sommer et al. and Claims 6 and 39.

Sommer et al.	Claims 6 and 39
18 to 28 wt % of Co	24 to 26 wt. % Co
11 to 15 wt % of Cr	17 wt. % Cr
11.5 to 14 wt % of Al	10 wt. % Al
1 to 8 wt % of Re	1.5 wt. % Re
1 to 2.3 wt % of Si ²	
0.2 to 1.5 wt % of Ta ²	
0.2 to 1.5 wt % of Nb	
0.3 to 1.3 wt % of Y ¹	
0 to 1.5 wt % of Mg	
0 to 0.5 wt % of a total of La and La-series ¹	
0 to 0.1 wt % of B	

less than 0.1 wt % of C	
balance Ni (27.4 wt. % or more)	

¹The total of Y, La, and La-series is from 0.3 to 2.0 wt %, and

²The total of Si and Ta is equal to or less than 2.5 wt %.

It should be apparent from the above that Sommer et al. is very different from the invention claimed in claims 6 and 39. Specifically, Sommer et al. discloses 18 - 28 wt. % Co, whereas claims 6 and 39 require 24 – 26 wt. % Co. Further, claims 6 and 39 require 1.5 wt. % Re, whereas Sommer et al. discloses only 1 – 8 wt. % Re. Sommer et al. did not have possession of an alloy containing 24 – 26 wt. % Co and approximately 1.5 wt. % Re. Sommer et al. only realizes that very broad ranges can be used.

The present invention as claimed in claims 6 and 39 has very different chromium and aluminum contents. Specifically, claims 6 and 39 require 17 wt. % Cr, whereas Sommer et al. has 11 – 15 wt. % Cr. There is no suggestion in Sommer et al. to use more Cr. Claims 6 and 39 require 10 wt. % Al, whereas Sommer et al. uses 11.5 – 14 wt.% Al. There is no suggestion in Sommer et al. to use less Al.

Spanning pages 5 and 6 of the Office Action, the Examiner admits that Sommer et al. is deficient in the Cr and Al content. The Examiner cites *Titanium Metals Corp.*, 227 USPQ 773 (CAFC 1985) for the proposition that "one of ordinary skill in the art would have expected compositions that are in such close proportions to those in prior art to be *prima facie* obvious, and to have same properties." A copy of the *Titanium Metals* decision is enclosed for the Examiner's review. It is not relevant to the present application. Specifically, in *Titanium Metals*, the lower court was presented with arguments relating properties, which were not claimed. See below.

As we read the situation, the court was misled by the arguments and evidence to the effect that the inventors here found out and disclosed in their application many things that one cannot learn from reading the Russian article and that this was sufficient in law to justify granting them a patent for their contributions -- such things as what good corrosion resistance the claimed alloys have against hot brine, which possibly was not known, and the range limits of the Ni and Mo content, outside of which that resistance diminishes, which are teachings of very useful information. These things the applicants teach the art and the Russian article does not. Indeed, appellee's counsel argued in his opening statement to the trial court that the PTO's refusal of a patent was "directly contrary to the requirement of Article I, Section 8, of the Constitution," which authorizes

Congress to create a patent law. But throughout the trial counsel never came to grips with the real issues: (1) what do the claims cover and (2) is what they cover new?

Titanium Metals at page 778

The Court found that claims 1 and 2 of the Titanium Metal application were anticipated. The obviousness issue did not apply to these claims. For claim 3 of the Titanium Metals application, the CAFC also made references to claim 3 being anticipated. The following is the text cited by the Examiner of the present application.

As admitted by appellee's affidavit evidence from James A. Hall, the Russian article discloses two alloys having compositions very close to that of claim 3, which is 0.3% Mo and 0.8% Ni, balance titanium. The two alloys in the prior art have 0.25% Mo - 0.75% Ni and 0.31% Mo - 0.94% Ni, respectively. The proportions are so close that *prima facie* one skilled in the art would have expected them to have the same properties. Appellee produced no evidence to rebut that *prima facie* case. The specific alloy of claim 3 must therefore be considered to have been obvious from known alloys.

Titanium Metals at page 779.

It appears that the reference to "properties" relates to the evidence discussed above, which may have misled the Titanium Metals trial court. In any case, the Titanium Metals prior art disclosed 0.25 % Mo and 0.31% Mo, whereas the Titanium Metals claim required 0.3% Mo. The claimed amount is within the amounts disclosed in the prior art. Further, Titanium Metals claim 3 required 0.8% Ni, whereas the prior art discloses 0.75% Ni and 0.94% Ni. Again, the claimed amount is within the amounts disclosed in the prior art. This is very different from the claimed composition, in which the claimed amounts are clearly outside of what is disclosed in Sommer et al.

Specifically with regard to claim 16, please refer to the below table. Sommer et al. does not disclose 15 – 21 wt. % Cr. Further, Sommer et al. does not disclose 9 to 11.5 wt. % Al. In addition, claim 16 recites a protective layer consisting essentially of the claimed elements. On the other hand, Sommer et al. requires 1 to 2.3 wt. % Si, 0.2 – 1.5 wt. % Ta, the sum of Si and Ta being equal to or less than 2.5 wt. %. Further, Sommer et al. requires 0.2 – 1.5 wt. % of Nb. Thus, Sommer et al. requires at least 1.4 wt. % of elements not included in the claimed 16 invention. Accordingly, in addition to the significant deficiencies with regard to the chromium content and the aluminum content, Sommer et al. has additional materials, and claim 16 has closed-ended language.

Sommer et al.	Claim 16
18 to 28 wt % of Co	24 to 26 wt. % Co
11 to 15 wt % of Cr	15 to 21 wt. % Cr
11.5 to 14 wt % of Al	9 to 11.5 wt. % Al
1 to 8 wt % of Re	0.5 to 2 wt. % Re
1 to 2.3 wt % of Si ²	
0.2 to 1.5 wt % of Ta ²	
0.2 to 1.5 wt % of Nb	
0.3 to 1.3 wt % of Y ¹	0.05 to 0.7 wt. % yttrium, scandium, rare earths
0 to 1.5 wt % of Mg	
0 to 0.5 wt % of a total of La and La-series ¹	0 to 1 % ruthenium
0 to 0.1 wt % of B	
less than 0.1 wt % of C	Production related impurities
Balance Ni (27.4 wt. % or more)	Balance Ni (about 37.8 wt % or more)

¹The total of Y, La, and La-series is from 0.3 to 2.0 wt %, and

²The total of Si and Ta is equal to or less than 2.5 wt %.

In accordance with the foregoing amendments and remarks, it is submitted that the prior art rejections should be withdrawn. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: September 21, 2006

By: 
Mark J. Henry
Registration No. 36,162

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

FULL TEXT OF CASES (USPQ FIRST SERIES)

**Titanium Metals Corporation of America v. Banner,
227 USPQ 773 (CA FC 1985)**

Titanium Metals Corporation of America v. Banner

**(CA FC)
227 USPQ 773
Decided November 7, 1985
No. 85-1452
U.S. Court of Appeals Federal Circuit**

Headnotes**PATENTS****1. Patentability -- Anticipation -- In general (§ 51.201)**

Federal district court erred by authorizing issuance of patent on claims that, properly construed, are anticipated under 35 USC 102 by published article which admittedly disclosed alloy on which these claims read.

2. Patentability -- Invention -- Specific cases -- Chemical (§ 51.5093)

Specific claimed alloy, whose compositions are in such close proportions to those in prior art that, *prima facie*, one skilled in art would have expected them to have same properties, must be considered to have been obvious from known alloys.

Particular patents -- Alloys

Covington and Palmer, Titanium Alloy, order for issuance of patent reversed.

Case History and Disposition:

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**Appeal from District Court for the District of Columbia, Penn, J.;
225 USPQ 673 .**

Action by Titanium Metals Corporation of America, against Donald W. Banner Commissioner of Patents and Trademarks, under 35 USC 145. From judgment for plaintiff, defendant appeals. Reversed.

Attorneys:

Fred E. McKelvey, Deputy Solicitor (Joseph F. Nakamura, Solicitor, and Henry W. Tarring, II, Associate Solicitor, on the brief) for appellant.

David C. Breuning, and Webb, Burden, Robinson & Webb, P.A., both of Pittsburgh, Pa. (Richard L. Byrne, Pittsburgh, Pa., on the brief) for appellee.

Judge:

Before Rich and Newman, Circuit Judges, and Nichols, Senior Circuit Judge.

Opinion Text

Opinion By:

Rich, Circuit Judge.

This appeal is from an Order of the United States District Court for the District of Columbia in a civil action brought pursuant to 35 U.S.C. § 145 against Donald W. Banner as Commissioner of Patents and Trademarks ¹ authorizing the Commissioner to issue to appellee a patent containing claims 1, 2, and 3 of patent application serial No. 598,935 for "TITANIUM ALLOY." The Commissioner has appealed. We reverse.

Background

The inventors, Loren C. Covington and Howard R. Palmer, employees of appellee to whom they have assigned their invention and the application thereon, filed an application on March 29, 1974, serial No. 455,964, to patent an alloy they developed. The application involved on this appeal is a continuation-in-part thereof, filed July 25, 1975, containing the three claims on appeal. The alloy is made primarily of titanium (Ti) and contains small amounts of nickel (Ni) and molybdenum (Mo) as alloying ingredients to give the alloy certain desirable properties, particularly corrosion resistance in hot brine solutions, while retaining workability so that articles such as tubing can be fabricated from it by rolling, welding and other techniques. The inventors apparently also found that iron content should be limited, iron being an undesired impurity rather than an alloying ingredient. They determined the permissible ranges of the components, above and below which the desired properties were not obtained. A precise definition of the invention sought to be patented is found in the claims, set forth below, claim 3 representing the preferred composition, it being understood, however, that no iron at all would be even

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more preferred.

1. A titanium base alloy consisting essentially by weight of about 0.6% to 0.9% nickel, 0.2% to 0.4% molybdenum, up to 0.2% maximum iron, balance titanium, said alloy being characterized by good corrosion resistance in hot brine environments.
2. A titanium base alloy as set forth in Claim 1 having up to 0.1% iron, balance titanium.
3. A titanium base alloy as set forth in Claim 1 having 0.8% nickel, 0.3% molybdenum, up to 0.1% maximum iron, balance titanium.

The examiner's final rejection, repeated in his Answer on appeal to the Patent and Trademark Office (PTO) Board of Appeals (board), was on the grounds that claims 1 and 2 are anticipated (fully met) by, and claim 3 would have been obvious from, an article by Kalabukhova and Mikheyew, *Investigation of the Mechanical Properties of Ti-Mo-Ni Alloys*, Russian Metallurgy (Metally) No. 3, pages 130-133 (1970) (in the court below and hereinafter called "the Russian article") under 35 U.S.C. §§ 102 and 103, respectively. The board affirmed the examiner's rejection. However, it mistakenly proceeded on the assumption that all three claims had been rejected as anticipated under § 102 by the Russian article and ignored the obviousness rejection. On this appeal the PTO says it does not pursue the § 103 rejection further. Appellee proceeds on the basis that only the § 102 rejection is before us.

Both the examiner and the board had before them as evidence three affidavits by Rosenberg, Palmer, and Hall and a declaration by Minkler, by which they were not persuaded of patentability.

The Russian article is short (3 pages), highly technical, and contains 10 graphs as part of the discussion. As its title indicates, it relates to ternary Ti-Mo-Ni alloys, the subject of the application at bar. The examiner and the board both found that it would disclose to one skilled in the art an alloy on which at least claims 1 and 2 read, so that those claims would not be allowable under the statute because of lack of novelty of their subject matter. Since the article does not specifically disclose such an alloy *in words*, a little thinking is required about what it would disclose to one knowledgeable

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about Ti-Ni-Mo alloys. The PTO did that thinking as follows:

Figure 1c [a graph] shows data for the ternary titanium alloy which contains Mo and Ni in the ratio of 1:3. Amongst the actual points on the graph is one at 1% Mo + Ni. At this point, the amounts of Mo and Ni would be 0.25% and 0.75% respectively. A similar point appears on the graph shown in Figure 2 of the article.

Appellants do not deny that the data points are disclosed in the reference. In fact, the Hall affidavit indicates at least two specific points (at 1% and 1.25% Mo + Ni) which would represent a description of alloys falling within the scope of the instant claims.

On that basis, the board found that the claimed alloys were not new, because they

were disclosed in the prior art. It having been argued that the Russian article contains no disclosure of corrosion-resistant *properties* of any of the alloys, the board held:

The fact that a particular property or the end use for this alloy as contemplated by appellants was not recognized in the article is of no consequence.

It therefore held the Russian article to be an anticipation, noting that although the article does not discuss corrosion resistance, it does disclose other properties such as strength and ductility. The PTO further points out that the authors of the reference must have made the alloys to obtain the data points.

Being dissatisfied with the decision of the board, Titanium Metals Corporation of America, as assignee of the Convington and Palmer application, then brought an action in the District Court for the District of Columbia against the Commissioner pursuant to 35 U.S.C. § 145, its complaint alleging that the board's decision "was erroneous and contrary to law," and making profert of a certified copy of the application and all papers in the file thereof, together with a copy of the Russian article which was the sole basis of the PTO refusal to allow the claims. It prayed that the court adjudge it entitled to a patent containing claims 1-3 and authorize the Commissioner to grant such a patent. The Commissioner filed an answer denying that the applicants were the first inventors of the alloys claimed or entitled to a patent, alleging that the claims are not patentable under the law, and making profert of the Examiner's Answer, the Board of Appeals' decision, and the prior art reference.

The case came on for trial on January 24, 1980, before the Honorable John G. Penn and was concluded in two and a half hours. The testimony of one witness was heard by the court, Dr. James C. Williams, professor at Carnegie-Mellon University in Pittsburgh and an expert in titanium metallurgy. His testimony was about equally divided between direct and cross examination.

At the conclusion of the plaintiff's case, the following exchange took place between the judge and the Associate Solicitor for the PTO:

THE COURT: All right. Mr. Tarring?

MR. TARRING: Your Honor, generally the position of the Patent Office is we rely on the position of the tribunals below, the examiner and the Board of Appeals and their decisions are both present in the exhibit which I submitted earlier. I was not quite sure whether you would prefer that we have a post-trial brief in the matter. If that's your preference we could do that or I could make an argument on the basis of the law right now. I don't know what your preference would be. Otherwise, I'm not going to call any witnesses.

THE COURT: You are not going to what?

MR. TARRING: I have no intention of calling any witnesses so it's really a matter of argument at this point, I think.

THE COURT: Of course, I have received your pre-trial briefs.

After further discussion, it was settled that both parties would file further briefs after the hearing transcript had been prepared. They were filed in April and May, 1980. On November 16, 1984 the District Court entered the Order appealed from followed on November 28 by a supporting memorandum opinion. January 10, 1985, the PTO filed its Notice of Appeal. This court has heard oral argument and received briefs.

The District Court Opinion

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The trial court's memorandum opinion ² having been published, we shall merely outline its contents.

After stating the nature of the action and the relief sought, Part I is a summarization of the contents of the patent specification, a statement of the issues, and of the PTO rejection which is stated both correctly as the examiner made it and incorrectly as the board assumed it to be. Part II is a statement of the District of Columbia Circuit Court of Appeals' attitude toward plaintiff's burden on review of the PTO board decisions in § 145 actions, namely, that it is a "heavy burden," "great weight" being given to

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the PTO decision because of its "expertise," a "thorough conviction" that it erred being required, as well as a lack of a "rational basis for its conclusions." In Part III is a brief discussion of "anticipation" under § 102 with citation of two cases from our predecessor Court of Customs and Patent Appeals, *In re Wilder*, 429 F.2d 447, 166 USPQ 545 (1970), and *In re LeGrice*, 301 F.2d 929, 133 USPQ 365 (1962), with emphasis placed on their holdings that an anticipatory reference must be an "enabling" reference, the implication being that the Russian article perhaps does not enable one to know all the things that the plaintiff's inventors disclosed in their application, such as the range limits of the alloying ingredients Mo and Ni and the corrosion resistance. The court then states that after considering all of the affidavit and declaration evidence which was before the PTO, it still lacked the necessary "thorough conviction" required to overturn the PTO decision even though, left to its own judgment of the evidence, it would be willing to do so. It then reviewed the evidence of Dr. Williams taken before it. Dr. Williams was qualified as an expert in titanium metallurgy but not in patent law. The questions he was asked, however, pertained to the interpretation of patent claims, as quoted in the court's opinion. The court was of the view that his testimony "fully supports the arguments made by the plaintiff in this case" and found it "to be very persuasive." The court then concluded that claims 1-3 were not anticipated and that claim 3 was wrongly rejected as directed to obvious subject matter. In the court's view, Dr. Williams' testimony tipped the scales in favor of issuing a patent.

OPINION

1. Jurisdiction

This suit was brought in the district court pursuant to 35 U.S.C. § 145. Our jurisdiction rests on 28 U.S.C. § 1295(a)(4)(C) which provides as follows:

§ 1295. Jurisdiction of the United States Court of Appeals for the Federal Circuit

(a) The United States Court of Appeals for the Federal Circuit shall have exclusive jurisdiction --

....
(4) of an appeal from a decision of --

....
(C) a district court to which a case was directed pursuant to section 145 or 146 of title 35;

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145, this court's jurisdiction is *exclusive* of the Court of Appeals for the District of Columbia and is therefore governed by the precedents of this court and its predecessor courts. *See South Corporation v. United States*, 690 F.2d 1368, 215 USPQ 657 (Fed. Cir. 1982).

Strange as it may seem to any district judge not to be governed by the precedents of his own Court of Appeals, that is the situation created by Congress in the Federal Courts Improvement Act of 1982, § 402 of Pub. L. 97-164, Apr. 2, 1982, 96 Stat. 37, effective Oct. 1, 1982, in the interest of promoting a uniform patent law by having only one Court of Appeals deciding questions of patent law, whether review be of decisions of the Patent and Trademark Office or of district court judgments in cases arising under the patent laws of the United States. *Cf.* § 1295(a)(1). We do not fault the district judge, however, for having stated the precedents of his own circuit in this § 145 case because this is one of the first occasions we have had to review a judgment in such a case. Nor do we need to determine whether we should apply those precedents here.

2. *The rejections under review*

Tracing the PTO rejections under review below, we encounter confusion. Although we are reviewing the judgment (in the form of an order) of the district court,³ the effect of that order is to hold that the PTO's rejections of claims 1-3 were in error. The actual holding of the district court was:

The Court concludes that Claims 1, 2 and 3 should not have been rejected on the basis of anticipation pursuant to 35 U.S.C. § 102. Moreover, the Court concludes that Claim 3 should not have been rejected as being obvious pursuant to 35 U.S.C. § 103.

Thus, the Court finds as a fact and concludes as a matter of law that the decision of the Board of Appeals was in error. The testimony of Dr. Williams, which remains uncontradicted, adds sufficient weight to the

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plaintiff's side to tip the scales and, in the Court's view, to result in clear and convincing evidence that the application should not have been rejected.

Thus, the court deemed all three claims to have been rejected for anticipation under § 102. The examiner never so rejected claim 3. The board opinion, as above noted, erroneously assumed that he had, never gave any special or separate attention to claim 3, never discussed obviousness or § 103, and concluded its opinion with the words "The decision of the examiner is affirmed." The board made no new rejection, as it might have done, under 37 CFR 196(b). Under these circumstances, we shall assume that the board intended to, and did, affirm *only* the rejection that the examiner had made, as we have stated at the beginning, and that the only rejection outstanding against claim 3 is for obviousness under § 103.

The district court assumed there were *two* outstanding rejections against claim 3. We have reduced it to one.

The appellee, because it quite evidently suits its argument best, has preferred to ignore the § 103 rejection of claim 3, but we do not because it exists in the official record.

The PTO brief says the Commissioner "is not pursuing" the § 103 rejection in this

court, but it is before us whether or not pursued by the PTO. The PTO Solicitor developed a new theory in his brief, never propounded by either the examiner or the board, to support a § 102 rejection of claim 3 on the Russian article,⁴ but that was clearly beyond his province and we disregard it as amounting to a new ground of rejection. We also disregard it as contrary to many holdings of this court and its predecessors that anticipation under § 102 can be found only when the reference discloses exactly what is claimed and that where there are differences between the reference disclosure and the claim, the rejection must be based on § 103 which takes differences into account. D. Chisum, *Patents* § 3.02.

We have undertaken to settle the question whether we are dealing with one ground of rejection or two for the further reason that the standard of review of this court may vary in accordance with what the rejection is and whether it is considered to be a finding of fact or a conclusion of law. We have held that anticipation is a finding of fact, reviewable under the "clearly erroneous" standard, *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 225 USPQ 634 (Fed. Cir. 1985), and that obviousness is a conclusion of law not subject to that restraint, but is freely reviewable. *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 1344, 220 USPQ 777, 782 (Fed. Cir. 1984). That may make a difference in our review.

3. *The merits*

Finding, as we do, that claim 3 was never purposefully rejected under § 102, both the board and the district court being confused about that fact, we are left with the propriety of the rejection of claims 1 and 2 under § 102 and the rejection of claim 3 under § 103, both rejections having been held by the district court to have been erroneous. That necessarily follows from the court's conclusion "that the Claims are patentable." We find that conclusion contrary to statutory law and will deal with the two grounds of rejection separately.

A. *Anticipation, § 102*

From consideration of the trial court's memorandum opinion, we are unable to determine whether it erred because of misconstruction of the claims, misreading of what the reference discloses, lack of proper advice on the requirements of the patent statute respecting patentability, or the technical legal meaning of "anticipation," a term which some courts have erroneously used from time to time.

We are left in no doubt that the court was impressed by the totality of the evidence that the applicants for patent had discovered or invented and disclosed knowledge which is not to be found in the reference, nor do we have any doubt about that ourselves. But those facts are beside the point. The patent law imposes certain fundamental conditions for patentability, paramount among them being the condition that what is sought to be patented, as determined by the claims, be new. The basic provision of Title 35 applicable here is § 101, providing in relevant part: "Whoever invents

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or discovers any *new . . .* composition of matter, or any *new . . .* improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." (Emphasis ours.) The title of the application here involved is "Titanium Alloy," a

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composition of matter. Surprisingly, in all of the evidence, nobody discussed the key issue of whether the alloy was new, which is the essence of the anticipation issue, including the expert Dr. Williams. Plaintiff's counsel, bringing Dr. Williams' testimony to its climax, after he had explained the nature of the ingredients, the alloys made therefrom, and their superior corrosion resistance in hot brine, etc., repetitively asked him such questions as "Does the [Russian] article *direct you* as one skilled in the art to a titanium alloy having nickel present in an amount between .6 and .9 percent molybdenum in an amount between .2 and .4 percent?" (emphasis ours) followed by "Is there anything mentioned in the article about corrosion resistance?" Of course, the answers were emphatically negative. But this and like testimony does not deal with the critical question: do claims 1 and 2, to which the questions obviously relate, *read on or encompass* an alloy which was already known by reason of the disclosure of the Russian article?

Section 102, the usual basis for rejection for lack of novelty or anticipation, lays down certain principles for determining the novelty required by § 101, among which are the provisions in § 102(a) and (b) that the claimed invention has *not* been "described in a printed publication in this or a foreign country," either (a) before the invention by the applicant or (b) more than one year before the application date to which he is entitled (strictly a "loss of right" provision similar to novelty). Either provision applies in this case, the Russian article having a date some 5 years prior to the filing date and its status as "prior art" not being questioned. The PTO was never specific as to what part of § 102 applies, merely rejecting on § 102. The question, therefore, is whether claims 1 and 2 encompass and, if allowed, would enable plaintiff-appellee to exclude others from making, using, or selling an alloy *described* in the Russian article. *See* 35 U.S.C. § 154. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983).

To answer the question we need only turn to the affidavit of James A. Hall, a metallurgist employed by appellee's TIMET Division, who undertook to analyze the Russian article disclosure by calculating the ingredient percentages shown in the graph data points, which he presented in tabular form. There are 15 items in his table. The second item shows a titanium base alloy containing 0.25% by weight Mo and 0.75% Ni and this is squarely within the ranges of 0.2-0.4% Mo and 0.6-0.9% Ni of claims 1 and 2. As to that disclosed alloy of the prior art, there can be no question that claims 1 and 2 *read on* it and would be infringed by anyone making, using, or selling it. Therefore, *the statute prohibits* a patent containing them. This seems to be a case either of not adequately considering the novelty requirement of the statute, the true meaning of the correlative term "anticipation," or the meaning of the claims.

By reason of the court's quotations from cases holding that a reference is not an anticipation which does not enable one skilled in the art to practice the claimed invention, it appears that the trial court thought there was some deficiency in the Russian article on that score. Enablement in this case involves only being able to make the alloy, given the ingredients and their proportions without more. The evidence here, however, clearly answers that question in two ways. Appellee's own patent application does not undertake to tell anyone how to make the alloy it describes and seeks to patent. It assumes that those skilled in the art would know how. Secondly, appellee's expert, Dr. Williams, testified on cross examination that given the alloy information in the Russian article, he

would know how to prepare the alloys "by at least three techniques." Enablement is not a problem in this case.

As we read the situation, the court was misled by the arguments and evidence to the effect that the inventors here found out and disclosed in their application many things that one cannot learn from reading the Russian article and that this was sufficient in law to justify granting them a patent for their contributions -- such things as what good corrosion resistance the claimed alloys have against hot brine, which possibly was not known, and the range limits of the Ni and Mo content, outside of which that resistance diminishes, which are teachings of very useful information. These things the applicants teach the art and the Russian article does not. Indeed, appellee's counsel argued in his opening statement to the trial court that the PTO's refusal of a patent was "directly contrary to the requirement of Article I, Section 8, of the Constitution," which authorizes Congress to create a patent law. But throughout the trial counsel never came to grips with the real issues: (1) what do the claims cover and (2) is what they cover new? Under the laws Congress wrote, they must be considered. Congress has not seen fit to permit the patenting of an old alloy, known to others through a printed publication, by one who has discovered its corrosion resistance or other useful properties, or has found out to what extent one can modify the composition of the alloy without losing such properties.

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It is also possible that the trial court did not properly interpret the claims and took them to be directed only to the applicants' discoveries about the properties of the alloys instead of to the alloys themselves, as they are, possibly because of the phrase at the end of claim 1, "characterized by good corrosion resistance in hot brine environments," which applies to the other two dependent claims also. No light is shed by its opinion on what the court thought the claims mean as the opinion does not construe the claims. Until it has been definitely determined what subject matter is being claimed, it is not known what it is that the PTO held to be unpatentable. Claim interpretation, which is the logical starting point of the analysis, is a question of law free from the clearly erroneous standard of review. *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983). It is the correct and necessary construction of all three claims that they simply define titanium base alloys. Claims 1 and 2 state certain narrow limits within which the alloying ingredients, Mo and Ni, are present and necessarily cover a number of alloys. Claim 3 is specific to a single alloy. This said, it is immaterial, on the issue of their novelty, what inherent properties the alloys have or whether these applicants discovered certain inherent properties.

The trial court and appellee have relied on *In re Wilder*, *supra*, but they have both failed to note those portions of that opinion most relevant to the present case. The issue there, as here, was anticipation of certain claims. Wilder argued "that even though there may be a technical anticipation, the discovery of the new property and the recitation of this property in the claims 'lends patentable novelty' to the claims." The court answered:

However, recitation, in a claim to a composition, of a particular property said to be possessed by the recited composition, be that property newly-discovered or

not, does not necessarily change the scope of the subject matter otherwise defined by that claim. [429 F. 2d at 450, 166 USPQ at 548].

The court in that case also said:

[W]e start with the proposition that claims cannot be obtained to that which is not new. This was the basis of the holding in *In re Thuau* [135 F.2d 344, 57 USPQ 324 (CCPA 1943]. It was the law then, is now and will be until Congress decrees otherwise. [Id.]

It is also an elementary principle of patent law that when, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is "anticipated" if *one* of them is in the prior art. *In re Petering*, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962).

[1] For all of the foregoing reasons, the court below committed clear error and legal error in authorizing the issuance of a patent on claims 1 and 2 since, properly construed, they are anticipated under § 102 by the Russian article which admittedly discloses an alloy on which these claims read.

B. Obviousness, § 103

Little more need be said in support of the examiner's rejection of claim 3, affirmed by the board, on the ground that its more specific subject matter would have been obvious at the time the invention was made from the knowledge disclosed in the reference.

[2] As admitted by appellee's affidavit evidence from James A. Hall, the Russian article discloses two alloys having compositions very close to that of claim 3, which is 0.3% Mo and 0.8% Ni, balance titanium. The two alloys in the prior art have 0.25% Mo - 0.75% Ni and 0.31% Mo - 0.94% Ni, respectively. The proportions are so close that *prima facie* one skilled in the art would have expected them to have the same properties. Appellee produced no evidence to rebut that *prima facie* case. The specific alloy of claim 3 must therefore be considered to have been obvious from known alloys.

Conclusion

For the foregoing reasons, the decision and order of the district court holding that claims 1, 2, and 3 are directed to patentable subject matter and authorizing the issuance of a patent thereon were clearly erroneous and are *reversed*.

REVERSED.

Footnotes

Footnote 1. After suit was brought and before entry of said Order, Commissioner Gerald J. Mossinghoff, Banner's successor in office, was substituted as defendant. He has, in turn, been succeeded by Donald J. Quigg, but no formal substitution of Quigg has been made.

Footnote 2. Reported sub nom. *Titanium Metals Corporation of America v. Mossinghoff*, 603 F.Supp. 87, 225 USPQ 673 (D. D.C. 1984).

Footnote 3. The Order entered Nov. 16, 1984, after preliminary recitations, reads as follows:

ORDERED that the Commissioner of Patents and Trademarks is authorized to issue to plaintiff, Titanium Metals Corporation of America, as assignee and owner of application Serial No. 598,935, United States Letters Patent on Titanium Alloy including Claims Nos. 1, 2 and 3 in due form as

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prescribed by the Patent Laws of the United States.

The ultimate issue actually before us is *whether the patent laws permit* the Commissioner to issue such a patent.

Footnote 4. Resting on the fact that the Russian Article discloses an alloy containing 0.75% Ni and 0.25% Mo, the Solicitor's argument is as follows:

Moreover, this alloy falls within the scope of claim 3, which specifies 0.8% nickel, 0.3% molybdenum, up to 0.1% iron and balance titanium. Inasmuch as this claim specifies the content of nickel and molybdenum to a tenth of a percent, the claim, given the broadest reasonable interpretation, would cover alloys the amounts of whose contents would correspond to the claim language when expressed in tenths of a percent. Following the usual convention of rounding off hundredths to tenths by increasing the tenths digit by one when the hundredths digit to be dropped is five or greater, the alloy of the Russian article, expressed in tenths of a percent, would contain 0.8% nickel, 0.3% molybdenum and balance titanium, corresponding to the alloy specified in tenths of a percent in claim 3.

- End of Case -